A Sea of Dreams: Valuing Culture in Marine Conservation

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Introduction

At a recent IUCN-sponsored summit in Australia (IMPAC1), one of the most outspoken proponents of marine biodiversity conservation (Norse 2005) proclaimed that the "toughest conservation sell on earth involves establishing marine protected areas (MPAs) to protect pelagic 'hot spots' on the high seas."

Norse's point, though well taken, is debatable. Arguably, a much more formidable challenge lies closer to home shores: what can governments, international organizations, NGOs, and local communities themselves do to recognize and perpetuate the basic unity of cultural and biological diversity in tropical coastal zones? The land-sea interface is where uncontained development pressures are currently most intense and problematic, threatening communities, their local, culturally-based livelihoods, marine and coastal aquatic habitats and resources. The coastal zone is also where loss of maritime cultural diversity which could form the building blocks of sustainable small-scale fisheries is being most severely felt.

The question is, can marine conservation and cultural preservation strategies truly become mutually reinforcing? On this point, useful insights can be derived by comparing recent developments in Australia and Brazil where valuing culture, culture heritage, and fishing traditions has been elevated in national policy as a springboard for establishing and constructing a new generation of 'multi-use' MPAs.

In this paper I assess the status of culture in marine management, particularly in emerging marine protected area (MPA) frameworks and discourse. A sense of the breadth, direction, and potential of work in this area can be provided by analyzing experiences in two tropical coastal regions which geopolitically and in terms of culture history are far removed from one another: N.E. Brazil and N. Australia / W. Oceania.

Fishing societies in these areas are among the world's richest, remarkable, ethnographically well-documented, repositories of culturally-based marine environmental and biodiversity knowledge. Yet, at a glance, it might seem unlikely that these cases

could have much of anything in common. Actually, a number of interesting parallels can be pointed out in respect to MPA development and in the chronicles of maritime anthropology. Over 30 years ago, ethnographic studies in Brazil and W. Oceania generated exchanges and debates about the occurrence, extent, functions, and consequences of losing 'sea tenure' systems and associated marine environmental knowledge (see Cordell's 1989 overview of the history of research on this topic). Studies in this area continue to provide useful new perspectives on development of common property management systems, local rights and claims in coastal seas, initially with respect to fishery management, contesting entrenched notions of the 'tragedy of the commons' as the root cause of fisheries decline; but more recently, in respect to opportunities for using sea tenure as a spatial management tool to strengthen MPAs.

In parts of Brazil, and W. Oceania, there is growing recognition of the benefits of raising the profile of culture, in changing, increasingly interwoven, marine management discourses, projects, and policies. Valuing culture and cultural diversity in marine contexts is not only socially empowering, but potentially a more powerful incentive and platform (to catalyze local responsibility and sense of ownership for marine conservation) than employing biodiversity science criteria and assessments alone to establish MPAs.

"Why All That 'Messy Cultural Stuff' Won't (and Shouldn't) Just Go Away," the title originally proposed for this paper for the SHE meetings implied dissatisfaction with the overall state of affairs and 'powers that be' in marine conservation. Clearly, many environmental groups and marine regulatory authorities *do* feel that it would make their lives a lot easier if culturally-based, traditional fishers, users of communal inshore seas, simply disappeared, leaving resource management and protected area policies primarily in the hands of western science-directed conservation planners. International conservation NGOs are not known for their liberal cultural and social sensitivities (cf. Chapin 2004; Dowie 2005).

To be fair though, a 'minority report' with a different point of view, also deserves a hearing. After a brief flirtation with 'culture and ecology' and social science approaches to nature conservation in the 1980's and early 1990's (e.g. WWF's Wild Lands and Human Needs Program), big environmental NGOs and their wealthy private foundation funders, hopped the biodiversity freight train en masse, and culture all but disappeared from the radar. As marine management approaches developed to respond to the world-system scope of threats to ecoregions, ecosystems, and hotspots, there has been little room for culture, or social science for that matter, in setting priorities and strategies for marine environments. Culture heritage and environment, institutionally and administratively, continue for the most part to live in separate compartments, with separate jurisdictions.

Yet the pendulum swings. While culture has never figured prominently in mainstream marine conservation thinking and initiatives—in part because many of the world's indigenous maritime peoples were decimated during colonial expansion, or often depicted today as mere shadows of their former selves--environmentalists did not seek to appropriate traditional fishers as noble savage / 'wisdom of the elders' symbols of

sustainability. On the contrary, fishing societies, living on the edge, so to speak, are still frequently scapegoated and villainized as dog-eat-dog competitors, compelled by ignorance (blind faith in a divine order in which the sea's bounty cannot be considered to be exhaustible), and poverty to over-fish, in other words, posing a serious threat to global marine conservation efforts.

Culture heritage frameworks tend to be extremely place-based, concerned with structures, material culture, or single sites, seldom involving any appreciable extensions or expression in coastal waters. However, more recently (from the mid -1990's on), in certain traditional maritime settings, regard for 'time-tested' cultural practices and significant cultural sites and sea knowledge is making a comeback, starting to attract interest in marine conservation circles, and even in corridors of some fisheries agencies. There are indications of enhanced sensitivity and receptivity to preservation of so-called, 'intangible' culture (UNESCO's rubric) on the part of international environmental management authorities and policy-makers (e.g. UNESCO's World Heritage Centre now includes a Marine Heritage Section).

Renewed interest in cultural phenomena is evident in a range of conservation contexts: (a) so-called 'faith-based' conservation initiatives (sponsored by IUCN, WWF, and others); (b) in a number of large-scale ecological monitoring projects and efforts to develop 'tracking tools' for MPAs; and (c) in the design and terminology and classification of multi-use MPAs where dedicated access and use privileges are assigned to specific communities, based on continuity of their traditional practices and group identities, and technologically simple economies thought to be conducive to sustainability (see World Bank 2006, Chapter 2); (d) in certain indigenous, culture heritage campaigns for sea rights where groups are amenable to science-based conservation and sustainable resource management discourses; (e) in efforts to broaden appreciation of the essential interdependence of cultural and biological diversity, (e.g. one US private foundation, the Christensen Fund, expressly promotes 'bio-cultural' integration in setting geographic, and grant-making priorities)

Special concerns anthropologists have in culture and the sea relationships and values, reflected in what are now very extensive ethnographic accounts of fishing societies around the world, have gradually contributed to opening up interdisciplinary, intellectual space for MPA architects to consider: non-economic uses (framed as existence, or non-market values) of sea space; spiritual and ritual practices associated with natural sacred sites in the sea and taboos affecting particular marine species; sociocultural identity concerns based on enduring affinities with the sea; coastal-marine cultural and social mapping; identifying points of compatibility and articulation between science-based MPA management and zoning, and ubiquitous, often undocumented, pre-existing tenure practices and territorial claims.

What Do I mean By a "Sea of Dreams?"

The rhetoric of marine conservation is often phrased by proponents as the dream, or wish of an expert (scientist) or a group having reached a consensus on action priorities or principles—a collective vision. Some may be familiar with IUCN's motto for it's latest worldwide campaign to create vast 'networks of marine protected areas on schedule (countdown to 2012): "Making It Happen."

In *Life and Death in a Coral Sea, (*1971) Captain Jacques-Yves Cousteau, arguably the most famous and eloquent champion of marine conservation wrote:

> "I have spoken often about the decline of coral…This decline, if it continues, will mark the end of one of the great beauties of creation and the end of a great hope—that of discovering life forms hitherto unknown on Earth…If our grandchildren never have the opportunity to see living coral—it will be to the everlasting shame of our age…We have a moral obligation toward our descendants. We must not pass on to them a legacy of empty oceans and dead reefs."

The Brazilian MPA enterprise in question here which involves establishing marine extractive reserves (*Reservas Extrativistas Marinhas*) is in a sense a collective dream, or vision, which, against all odds, is painstakingly being transformed into reality (it's been official since 1994!).

The sea, characteristically, doesn't seem to want to yield to any one social, scientific or legal interpretation, but is capable of encompassing enormous cultural diversity and is a source endless variation in perception and understanding (see Diegues, 2000, *Imagem das Aguas*).

This paper attempts to put Brazil's evolving Marine Extractive Reserves (MERs) in perspective, noting that culture, social resistance, and social justice movements, and processes of valuing culture heritage for marine conservation purposes, are not confined to indigenous peoples, but can develop just as well in non-indigenous, traditional fishing contexts. MERs are founded on culturally constructed ideologies about human ecological relationships with the sea that encourage social liberation and equity (Teixeira de Andrade-Downs, 2006).

The Coast as A Refuge For The Poor

It is useful to backtrack briefly to Brazil of an earlier day (late 1960's and 1970's) which marks a formative phase of anthropological studies of culture and fishing communities. It is worth asking whether and to what extent ideas that fueled passions for work on the borderlines of human ecology, fishing societies, and anthropology over a quarter century ago are best left to the mists of memory, or if they still might hold some validity today, and on into the future?

Fieldwork on the social and environmental impacts of a government program to boost catches by introducing monofilament nylon nets in traditional coastal fishing communities

in Bahia (Cordell 1972) offered numerous surprises and discoveries. From studying how fishing spots are classified, where canoe fishing bosses decided to fish, and how competition and conflicts were precipitated on the fishing grounds between nylon net operators and traditional purse seiners, a pattern began to unfold of an intricate, local culturally-sanctioned system of proprietary rights to fishing spots extending over nearshore, estuarine waters, and mangrove swamps. At the time, for lack of a better term, I called this informal, 'homegrown' system of fishing claims which had clear-cut rules governing territorial access, but no formal, external legal status whatsoever to back it up, local 'sea tenure' (Cordell 1973;1974).

Subsequent fieldwork in Brazil (Diegues 1983, 1991; Begossi 2001, 2004; Robben 1989) and in traditional fishing societies all around the world (Acheson 1981; Johannes 1978; McCay and Acheson 1987) has revealed how communities frequently create their own tenure and use rights arrangements, with sophisticated inclusion-exclusion principles (sometimes deliberately at odds with official rules and policies for regulating fisheries). Sea tenure practices have been found to be far more pervasive and diverse, particularly in small-boat, inshore fishing traditions than previously thought (DeAlessi 1998; Ruddle and Akimichi 1984) . This was both good and bad news for fisheries authorities, kindling debates about whether local sea tenure customs, which may act to limit entry in fisheries, can truly can be said to have conservation benefits, and whether and how such customs could be profitably incorporated in modern-day fisheries management regimes.

In spite of sea tenure discoveries, there was little hope for social justice in Bahia in 1970, but a kind of freedom of imagination, pride in skill, and sense of independence engaging in artisanal fishing (Henfry 1981; Cordell 1989). During this period, work was guided by the need to explain culture and tradition (not only sea tenure among fishing communities) primarily as adaptations to endemic poverty and social marginality, marshalling evidence to refute stereotypes of how people behave under conditions of extreme scarcity and oppression. The social science literature of the day (culture of poverty studies) pervasively held that the plight of peri-urban slum dwellers resulted from rural-urban migration as a process leading to cultural breakdown, social fragmentation, and disintegration.

A very different picture of the nature of culture, social organization, and behavior under conditions of poverty began to emerge in studies of fishing communities in Brazil and in books such as Child of the Dark (by Carolina Maria de Jesus). Along with the survival, subsistence, and small-scale production value and sophistication of traditional ecological knowledge (TEK), the invisible architecture of the subterranean economy, and adaptive value of social networks (Cordell 1978), ethics of cooperation and food sharing, and informal conflict resolution methods are revealed in Shepard Forman's research in Alagoas (see "Cognition and the Catch"1967; and Raft Fishermen of N.E. Brazil, 1970) and Conrad Kottak's thesis: The Structure of Equality in Arembepe" (1966) to name a few.

Managing Sea Country: The Rise of Culturally-based Marine Management in N. Australia / W. Oceania

Coinciding with field studies in Brazil were a number of anthropological reports from Oceania describing elaborate, non-European, natural history lore of indigenous fishers, including customary marine tenure phenomena (first presented as a kind of ethnographic anomaly, unique to the S. Pacific). In his book, Words of the Lagoon (1980) the coral reef specialist, R.E. Johannes identified critical resource management functions of marine ethno-biology in Palau, making a strong case for applying the kinds of culturally-based practices he observed to enhance contemporary fisheries management.

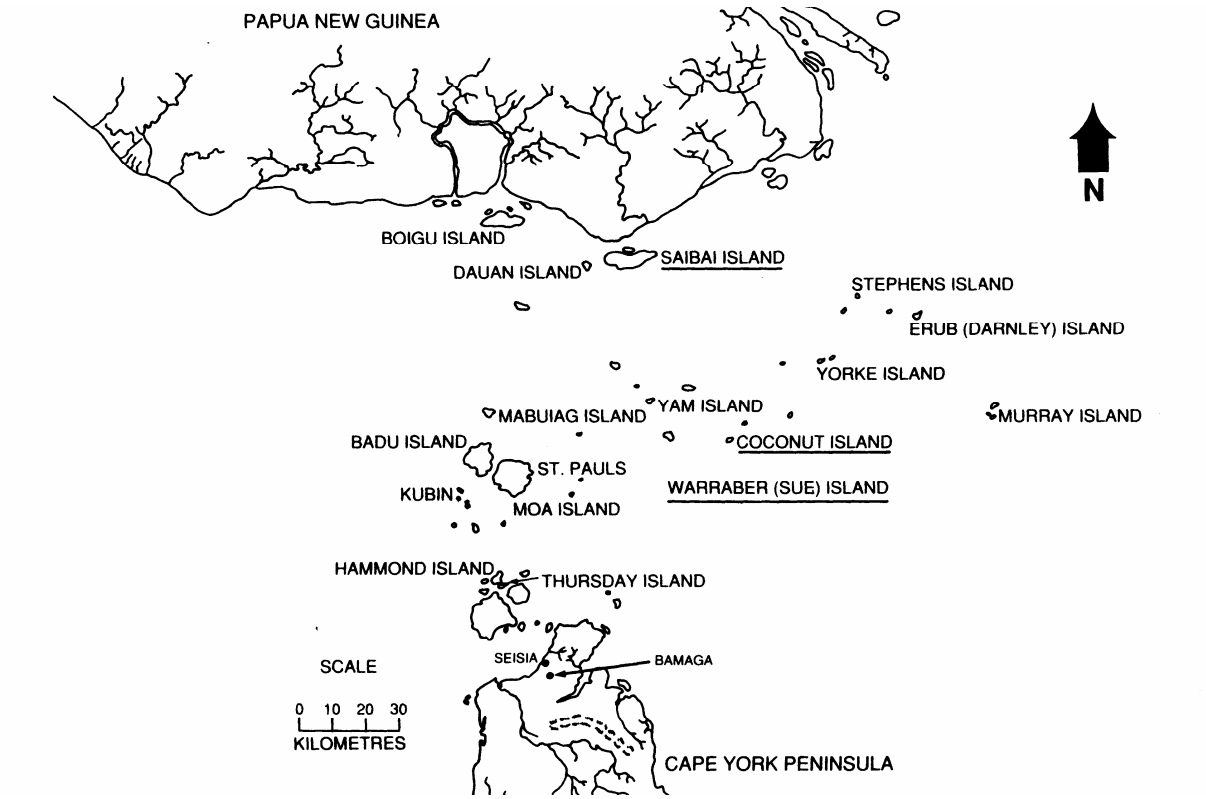
Previous documentation and analysis of sea tenure practices in Brazil made it possible to undertake comparative studies of variations on this theme with indigenous groups in N. Australia, Papua New Guinea, and the Solomon Islands. In Australia this was a time when both marine conservation and Aboriginal rights were coming to the forefront, subsequently to be linked in public policy debates. Aborigines wanted their land and sea countries back, and to be centrally involved (not just relegated to another group of 'stakeholders'), ideally with decision-making powers, over management of national parks, many of which were situated on Aboriginal lands; Australia's commercial fisheries had crashed; the Great Barrier Reef was being consumed by Crown of Thorns (starfish), and dying from sedimentation and chemical runoff from sugar plantations in Queensland. This volatile mix of the quest for social justice alongside increasing marine conservation needs, provided favorable conditions for innovations—especially alternative MPA concepts and measures which would allow fisheries to recover without displacing indigenous groups inhabiting remote areas. These events eventually led to unprecedented political alliances of Blacks and Greens, and a fusion of culture heritage, indigenous sea rights, and coastal management initiatives, in the form of government-backed 'indigenous marine protected areas.'

Despite distinctive non-European, cultural origins and 'otherness,' Aboriginal and Melanesian sea ownership customs, especially those encountered in the Torres Strait region, exhibit striking parallels with the development and functions and features of traditional sea tenure systems observed in far-away Brazil!

A sketch of Torres Strait Islanders relationship with their marine environment illustrates how these indigenous communities were able to represent and defend what they consider their rights and interests, and (*kastom*) values, and and to gain increasing soverignty in marine management through culture preservation, without becoming marginalised , dislocated, or experiencing new terms of subjugation in the processes and structures driven by the state and powerful conservation movements.

Sacred Culture Sites and the 'Totemic' Environment of the Sea

REGIONAL MAP



Torres Strait (Figure l) a reef-strewn passage stretching roughly 150 km between continental Australia and the island of New Guinea, is one of the South Pacific's last great sea frontiers. It is also one of the world's only tropical coastal areas still largely inhabited by indigenous peoples, whose hunting and fishing grounds are transected by an international sea border.

Though less celebrated than the Great Barrier Reef, the Torres Strait has a distinct biogeography, including many remote, uninhabited islands, reefs, and cays, and commercially and culturally significant fisheries. Torres Strait's indigenous Melanesian societies own and use the land and sea resources under systems of customary tenure, and their home reefs and much of the seabed are blanketed with sacred sites.

Recent experiences with community-based conservation in Torres Strait, which are moving in the direction of a new kind of regional marine conservation framework--one that recognizes sea-based culture sites as a key to protecting the marine environment.

On the part of resource management agencies, this amounts to an interesting philosophical shift in how the domain of 'culture heritage' is represented and prioritized within the overall picture of conservation planning and action for the region.

For Torres Strait Islanders, the history of their social resistance movements and recent progress on the social justice front are reshaping conservation policies affecting indigenous homelands and resources throughout Australia. In turn, this has opened up a political space to raise the profile for culture and sacred site management, which is helping to increase local awareness of a whole range of environmental and development impact issues.

Torres Strait is a place where the sea has always inspired the cultural imagination of the inhabitants of the region. Ancestral beings crisscrossed the Strait, and their mythical journeys are widely celebrated in songs, stories and legends.

A common theme running through the ethnographies of both Melanesian and Aboriginal societies has to do with the origin of peoples's spiritual connections with the natural world through the creation acts of primordial beings along 'dreaming tracks,' series of linked sites, storyplaces, or songlines. Many of these places are in remote areas of indigenous countries, places which may be 'off limits', or relatively inaccessible to outsiders. Such places tend to carry various behavioural and knowledge restrictions, and in some cases can only be looked after or managed by a particular social group or individual. (Bruce Chatwin wrote about this in his popular book Songlines).

Many culture sites and storyplaces are key reference points for tracing the journeys and recounting the deeds of mythical ancestors, including their underwater travels and sea-crossings. This knowledge reinforces peoples' sense of community, their cultural identity, their sense of time, history, coordination of traditional hunting and fishing activites, and the feeling Islanders retain of belonging to a particular island and sea area, even when they move to mainland Australia.

Fisheries managers, lawyers and environmental planners often find it difficult to grasp or come to terms with the nature of Islanders' 'ethno-ecology' and resource management customs which are deeply rooted in Melanesian tradition (Cordell 1995, 1998).

Widespread occurence of named culture sites and storyplaces in the sea with spiritual meanings do not easily fit existing scientific or culture heritage classifications or categories of resources. Moreover, the tenure customs and laws which apply to the care and use of such places tend to differ markedly from European laws of the sea and property, and fishing rights.

Some culture sites are directly associated with the supernatural, *zogo* places, sacred stones and underwater formations, power spots or dangerous places (like "poison places" in Aboriginal custom). In some cases Islanders voluntarily restrict activities (hunting, fishing, visits, camping) on or around these areas.

Recent events in Torres Strait reveal some surprising variations on the theme of indigenous rights and resource management, and insights into the special sensitivities and analytical complexities where indigenous peoples are struggling to represent the totality of their heritiage and cultural interests in the sea to a dominant society whose perceptions and laws of the sea are founded on very different principles.

In summary, the interests of the indigenous inhabitants of Torres Strait in their marine environment extend far beyond the boundaries of "home reefs" or even distant fishing grounds. These cultural connections to the sea have been overlooked in previous research, as they are not something that can be easily delimited, mapped and displayed. Yet acknowledging these connections not only enriches documentation of customary marine tenure but provides a more complete, realistic portrayal of human-environment relations in the region.

Community-led social and cultural mapping of non-European cultural landscapes, can help capture and preserve the distinctively Melanesian and Aboriginal spirit and totemic geography of place which, in turn, anchor cultural identity. In a comparative, cross-cultural perspective, the Torres Strait experience illustrates a principle being stressed in recent studies of terrestrial and marine biodiversity in Brazil (see Diegues 2003; Begossi 2006) that cultural diversity, often perpetuated in many small, widely scattered, territorially-committed, communities, opting to hold on to some of their custom ways and find new outlets and applications for their ethno-biology knowledge, can go a long way towards sustaining biological diversity.

Exiting Australia in 2000: Aborigines had a place at the table with the Great Barrier Reef Marine Park Authority (GBRMPA) representatives on the Board, a ‘reef ranger’ program, and a co-management system in place to set quotas for marine hunting, subsistence, and commercial fisheries. Torres Strait Islanders had gained exclusive communal title to their home islands and home reefs, and enough decision-making and political clout to block a proposed undersea natural gas pipeline which would have endangered many sacred sea sites. Culture was hot! Fewer Australians thought it was incongruous that the same ‘Blackfellas’ that were allowed to hunt crocodiles in national parks also liked to eat at MacDonald’s. Torres Strait Islanders were ordering buckets of Colonel Sanders flown up from Cairns for cultural celebrations – for ritual secondary burial feasts. Commonwealth and Queensland governments had been persuaded to accept Islanders own versions of what constitutes their ‘traditions’: notably that the long history of their commercial involvement in the region (in the pearshell, beche-de- mer trade, and rock lobster fisheries) should be viewed and treated as part of how they define their cultural traditions. Even Greenpeace was coming around to the idea that hunting dugong and turtle for ceremonial purposes from outboard powered aluminum dinghies

instead of outrigger canoes (as long as harpoons were used, not shotguns, mind you) was maybe tolerable.

The Emergence and Diversification of Culturally-Based Marine Extractive Reserves in Brazil

As in W. Oceania, over the years, images of traditional fishers, and assessment of the values represented in their culture heritage in Brazil had been changing and moving in new directions--in ways that would have seemed inconceivable in the 'ethnographic present' of the 1960's and 1970's. Mangrove swamps, long symbolizing social marginality, refuge areas for the poorest of the poor (sharecroppers fleeing from drought and starvation in the backlands) and havens for descendants of escaped slaves or Quilombos (Henfry 1981; Colvin 1996) nowadays were highly prized as sites for installation of lucrative shrimp farming. Commodification of culture in the Northeast was epitomized by rafts (*jangadas*) on display,with Mastercard logos on their sails. A first-of-its-kind, national fisheries agency (SEAP) had been established. But perhaps the most surprising development of all was a distinctively Brazilian, predominantly culture heritage-centered, special kind of multi-use MPA framework, set up to preserve, and unify preservation of cultural and biological diversity: a system of 'Marine Extractive Reserves (MERs). Moreover, MERs, in some cases embodied still viable sea tenure customs, and resource management knowledge of traditional fishers, communities many observers thought were on the verge of disappearance 30-40 years earlier. The persistence of these cultural systems is, among other things, testament to the adaptability (and sustainability potential) of artisanal-scale production. Begossi, in a recent research project in various Brazilian states substantiates the temporal stability of fishing spots (2006).

The absence of state regulations and interventions in fisheries over the past 25 years since a fisheries development agency, SUDEPE, shut down, has unquestionably fueled destructive fishing, resource and spatial conflicts, and predatory expansion and competition from other economies that have led to alarming coastal degradation in Brazil (World Bank 2006, Chapter 6). On the other hand, some positive developments have emerged in this vacuum, notably MERs, along with the formation of local and national associations of fishers, a proliferation of local, grassroots NGOs concerned with marine resources, technical and socioeconomic assistance, fishing rights, along with capacity-building work to empower fishing and MER communities in marine management.

For many artisanal fishers, having the option to create and participate in a MER community, which confers an exclusive communal marine resource use and access entitlement, gives segments of the coastal poor the feeling of owning something, that something is theirs even when private title to land, or secure title to a house seems forever out of reach.

MERs (or in Portuguese, *Reservas Extrativistas Marinhas*) are characterized by a novel combination of a community-based, sustainable use framework that incorporates both

conservation and cultural preservation values. MERs vary considerably from one site to the next along the coast in respect to size, biogeographic setting, extractive puprposes, zonation, and community composition (Maldonado 2000; Nogara 2005). They are unlike other MPA approaches in several key respects. Rather than being primarily biodiversity-driven, the MER framework enables communities to set up special, limited - access, protected areas with use rights and zonation based on demonstrating and maintaining collective, sociocultural, artisanal production identities, longstanding ties to coastal livelihood territories. They may include a mixture of sustainable resource use areas, and no-take zones.

MERs are essentially an effort to modify and extend the concept of extractive reserves—a conservation and sustainable development framework successfully instituted in western Amazonian forest (primarily rubber-tapper) economies—to coastal aquatic and marine domains of traditional fishing communities (ELI 1994; CNPT, 2001; Cunha, 2001; Diegues 2001). The marine extractive reserve initiative is attractive in that it has the potential to unify and reconcile elements that all too often are seen as incompatible: traditional culture heritage and cultural resource preservation needs, sustainable local fisheries, and conservation of marine biological diversity.

Various provisions of national environmental policy (PNMA I & II) and protected area legislation (SNUC 2004), civil codes, and international treaties to which Brazil is a signatory (such as the Convention on Biological Diversity) endorse the principles on which collectively held marine extractive reserves are based (Portaria IBAMA No. 22 / 2-10-92).

As MERs evolve, it is important to assess how well they are working, and whether, by integrating fisheries, albeit on small scales, MERs, like indigenous MPAs in Australia, offer a way to empower local communities in marine management, to create sustainable inshore fisheries, to forge a pathway out of poverty, and to build a foundation for scaling up to meet marine management challenges.

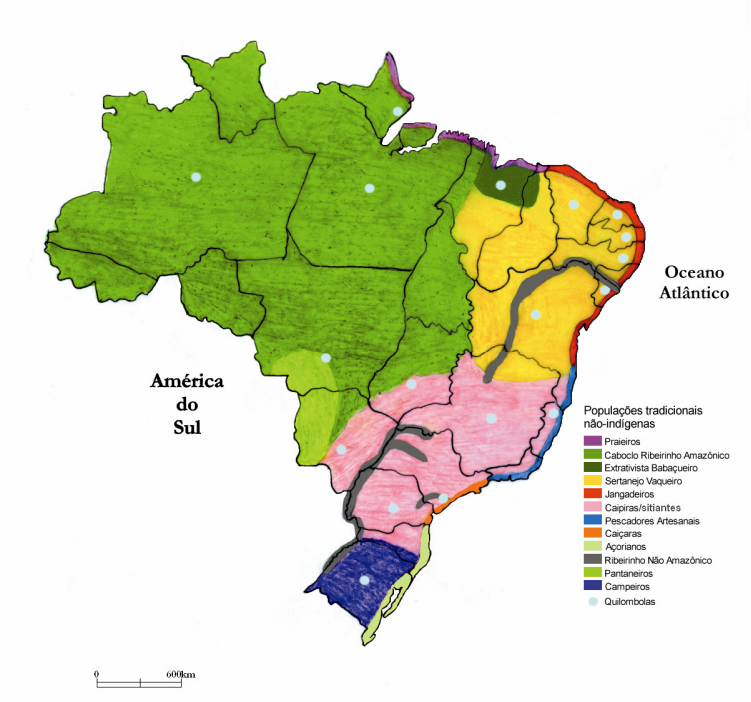


Figure 2. Classification and Distribution of Non-Indigenous 'Traditional Populations' in Brazil (Source: Diegues 2002)

(Figure 2) indicates the distribution and extent of Brazil's culturally diverse small-scale (*artesanal*) fishing societies: traditional raft, canoe, hull sailboat (*saveiro),* and other small-boat fishers (*jangadeiros, Caicaras, praieras, ribeirinhos, caboclos, quilombolas*). The historical significance and shifting meanings of sociocultural identity within one regional traditional population category alone is illustrated in Teixeira de Andrade-Down's study (2006) of social and environmental history of communities at the mouth of the Sao Francisco River. A recent report by CNPT/IBAMA for the Environment Minister, Marina Silva, who created in 2005 a National Sustainable Development Commission for 'Traditional Communities' (including 220 culturally distinct indigenous societies) estimates that Brazil has 4.5 million Traditional Inhabitants occupying 176 million hectares distributed across inland and coastal states.

IBAMA is in the process of systematically assessing prospects for extending the MER system to a wider range of traditional non-indigenous populations whose mixed economies still rely heavily on small-scale fishing. Many such communities are being dislocated, fragmented, and marginalized through the creation of national terrestrial parks (which prohibit extractive uses) and resident communities inside the parks, through urbanization, and increasing appropriation and privatization of coastal space through the growth of state-sponsored tourism, luxury resorts, and expansion of industries and port facilities.

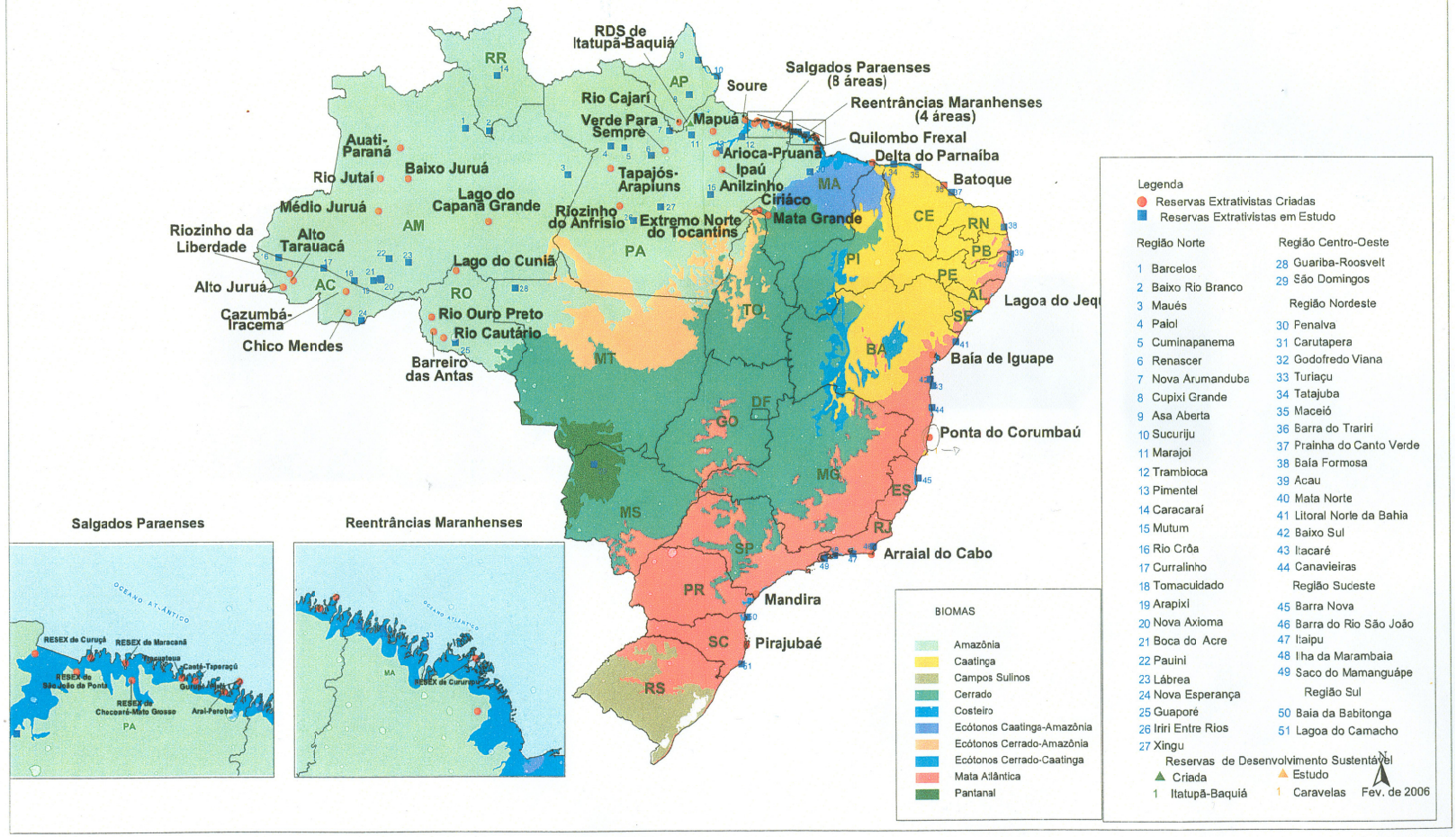
As shown in Figure 3 (below) currently there are 28 MERs in nine Brazilian states, stretching from Para to Santa Catarina and encompassing 735,000 hectares of sea space.

Existing MER communities contain approximately 40,000 artisanal fishers. An additional 68 MER proposals are under consideration by the Brazilian Environment Agency (IBAMA) for strategic sites in 15 of Brazil's 17 coastal states. A new, very large MER (approx. 100,000 hectares) was decreed in June 2006 in Canavieras, Bahia, 500 km south of Salvador, the state capital.

MINISTÉRIO DO MEIO AMBIENTE
INSTITUTO BRASILEIRO DO MEIO AMBIENTE
E DOS RECURSOS NATURAIS RENOVÁVEIS

RESERVAS EXTRATIVISTAS (RESEX) E RESERVAS DE DESENVOLVIMENTO SUSTENTÁVEL (RDS) FEDERAIS NO BRASIL

CENTRO NACIONAL DE
POPULAÇÕES TRADICIONAIS E
DESENVOLVIMENTO SUSTENTÁVEL



Closing Thoughts: Navigating Uncharted Waters Ahead

Culture, and dimensions of culture, can and are being valued in many new ways in marine conservation and fisheries management; it is impossible to enumerate them here. It is worth pointing out that in the end perhaps 'culture trumps all' as far as establishing MPAs. Significantly, President Bush chose to invoke U.S National Monument legislation (not Marine Sanctuary legislation) to create the largest MPA in the world in 2006 in the Northwest Hawaiian Island chain. In any case, the objective is not to form conclusions at this stage about inter-related functions of culture, cultural systems, and MPAs, but simply to call attention to the need for critical thinking about some very complex issues raised by valuing and evaluating the significance of culture and various cultural spheres in contemporary marine management contexts.

For one thing, fishing communities and regulatory agencies, as never before, in Brazil, Oceania, and in many tropical shores are being challenged to work together and to take formal positions on development impacts, culture heritage, intellectual property, and conservation issues, and to create more realistic, operational definitions of what constitutes 'custom' and tradition.

Efforts to more meaningfully and effectively incorporate culture in MPA design and management, are long overdue, and any process leading to greater appreciation of the unity of cultural and biological diversity, is a welcome development. A shift away from top-down to more bottom up, community-based MPA approaches, to borrow a medical analogy, could signal increasing awareness on the part of regulatory agencies of the advantages of treating 'more of the whole person,' that is, adopting a more holistic, 'human ecology' approach to marine management.

In Australia, and throughout Oceania, community-based conservation is moving in the direction of new kinds of regional marine conservation frameworks that recognize sea-based culture sites as a key to protecting the marine environment (Cordell 1998,1999, 2002). On the part of resource management agencies and NGOs (e.g. UNESCO, WWF, IUCN, the Australian government) this amounts to an noteworthy philosophical shift in how the domain of 'culture heritage' is represented and prioritized within the overall picture of conservation planning and action.

On the other hand, officializing and codifying cultural practices in mainstream conservation toolkits, and governance frameworks carries a number or risks and unpredictable outcomes. Can science and culture co-exist in marine management discourses in a balanced, level playing field, and in development of new MPA interventions? What will happen to culture in the trend to scale up marine conservation? Will culture get lost again in the shuffle?

Is rediscovery of culture by some conservation groups and MPA specialists a transient blip on the radar, and will a new generation of researchers do it justice, or do we run the risk of making a mockery through rapid assessment, lack of sensitivity to context, the search for universal cultural monitoring and economic valuation techniques?

In terms of obtaining and using cultural information, and cultural property, especially in connection with challenges of representation and interpretation of 'tradition' what will be the fate of cultural data as it enters the conservation agendas and GIS databases of powerful transnational NGOs and government agencies, other than national heritage registries and cultural ministries? Should different social and cultural protection standards and measures be applied to indigenous as opposed to non-indigenous traditional maritime communities? What provisions can be built into official versions, concepts, and policies concerning the definition of tradition, to allow for dynamism, and not stifle culture change processes, the reinvention of tradition, changing values and identities?

Can marine management frameworks--and all environmental policy is ultimately social policy--really cope with and take on board indigenous perceptions of the workings of the natural world which are construed as qualitatively different from Western biology, law, economics? Can indigenous entitlements and interests in coastal seas be integrated not only locally but in national and regional marine initiatives? Can indigenous sea rights claims and practices, and community-based approaches co-exist, or even complement each other in coastal zone and multiple use protected areas that go well beyond fisheries and the local level?

It seems reasonable that degree of cultural embededdness of an MPA site or system would both reflect and influence levels of local support, in turn affecting such things as 'management' effectiveness, ecological performance, and conservation impacts. Presumably culture heritage-based MPAs, set up to take the unity of local cultural, and biological diversity into account, would be more likely to succeed than protected areas which are strictly science-based, externally imposed, entities. However, will culturally-based systems and environmental perceptions and beliefs which have their own logic and validity—never intended for sustainable development, let alone biodiversity conservation—now be required to pass a European, science-based, conservation test, to be considered to be valid and worth preserving?

However liberal the bows to indigenous tradition and knowledge, the state defines the litmus of cultural traditionality. Perhaps there is no way to get around the problem of the state controlling the litmus test, and casting itself in the role of ultimate arbiter, of cultural traditionality. In introducing and codifying custom and traditions in marine conservation frameworks there exists real dangers of distortion of meaning and misrepresentation.

Concepts and theories of culture, culturally-based dimensions of behavior, and the predominantly qualitative nature, inherent intangibles and intricacies of cultural information that have evolved in anthropology and related disciplines are not readily

transferable to contexts of MPA metric or longitudinal analyses, where cultural features (non-material, at least) are distinguishable from other socioeconomic components. Culture tends to be an inclusive, all-encompassing thing, and at same time diverse and atomistic down to the finest local group, and even individual, scales.

Experiences reviewed here in Brazil and Torres Strait in instituting culturally-led, community demand-driven, multi-use, MPAs offers a tantalizing, potentially workable strategy to simultaneously advance marine conservation and campaigns for social justice. As these and similar MPA cases from other regions become more well known, and equipped with appropriate 'tracking tools' to help monitor their multi-purpose effectiveness, hopefully more tropical countries will be encouraged to seek alternatives in order to support (and by all means to avoid dispossession) of traditional fishers, be they indigenous or non-indigenous, in reversing the global marine crisis. If so, this would open a new chapter in the sea of dreams.

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